

CLAIMS

1 Method of selecting seeds (14) from a set of key images of a video sequence for the grouping of key images of prevalent shots of the video sequence, characterized in that it implements the following steps :

- random drawing (7) of p candidates from the set of key images, p being calculated in such a way as to obtain a very good probability of drawing a key image of a prevalent shot,
- calculation of the cost C (8) for each candidate, dependent on the distance from the key images of the set to that of the candidate, the distance relating to the signatures,
- selection of the candidate (k_1) (9) minimizing the cost C ,
- determination of a subset (lk) (11) from among the set of key images such that the key images forming the said subset have a distance from the candidate less than a threshold T (10),
- determination of a seed (k_2) (13) from among the key images of the subset (lk) such that it minimizes the cost function C for this subset,
- deletion of the key images of the subset (lk) (12) to form a new set of key images for at least one new random draw and determination of a new seed according to the previous 5 steps.

2 Method according to Claim 1, characterized in that the random draw is of the Monte-Carlo type, p being calculated by the Monte-Carlo formula.

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3 Method according to Claim 1, characterized in that the key images are weighted, as regards their signature, as a function of the length of the shots of the video sequence that they characterize and in that the random draw is biased by the weight of the key images.

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4 Method according to Claim 1, characterized in that the cost C is dependent on the quadratic distances between the signature of the candidate and those of the key images of the subset and in that T is the standard deviation of the distribution of the distances of the key images of the set from the candidate.

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dependent on the distribution of the distances of the key images of the set from the candidate,

5 5 Method according to Claim 1, characterized in that the signature of an image relates to the dominant colour.

10 6 Method of grouping (clustering) shots of a sequence of video images, the sequence being split into shots (1), a shot being represented by one or more key images (2), at least one signature or attribute being calculated for the key images (3), comprising a phase of partitioning the key images on the basis of a comparison of the attributes of the key images, characterized in that it comprises a phase of initialization for the selection of at least two key images or seeds on the basis of which the comparisons for the grouping are performed, the selection being performed according to the method of Claim 1.

20 7 Method according to Claim 6, characterized in that the partitioning phase implements an algorithm of the K-means or K-medoid type.

25 8 Method according to Claim 6, characterized in that the initialization and partitioning phases are iteratively repeated, the key images of the most compact cluster obtained in the previous iteration being eliminated from the set processed at this previous iteration so as to provide a new set on which the new iteration is performed.

30 9 Method according to Claim 8, characterized in that the stopping criterion for the iterations is dependent on the number of key images not belonging to the most compact cluster selected or else is dependent on the averages of the intra-cluster distances.

35 10 Method of selecting shots of interest (4), these shots being prevalent in the video sequence, characterized in that it implements the method according to Claim 6, the shots of interest corresponding to the grouping performed about the first seed selected.